
F&eIT Series DC-DC Power Supply Unit

POW-DD10GY or POW-DD43GY

User's Manual

CONTEC CO., LTD.

Congratulations on your recent purchase of a DC-DC Power Supply Unit.

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Handling Precautions

⚠ CAUTION

- Do not use or store the equipment in a hot or cold place, or in a place that is subject to severe temperature changes. (Operating temperature range: 0 - 40°C)
- Do not use or store the equipment in a place subject to direct sunlight or near a heating device, such as a stove.
- Do not use or store the equipment in a dusty or humid place.
(Operating humidity range: 10 - 90%RH, No condensation)
- As this product contains precision electronic components, do not use or store in environments subject to shock or vibration.
- Do not use or store the product near equipment generating a strong magnetic field or radio waves.
- If you notice any strange odor or overheating, please unplug the power cord immediately.
- In the event of an abnormal condition or malfunction, please consult the dealer from whom the equipment was purchased.
- To avoid electric shock, please do not touch the system with a wet hand.
- Do not modify the unit. CONTEC will bear no responsibility for any problems, etc., resulting from modifying this unit.
- Do not open the unit casing. CONTEC will disclaim any responsibility for equipment whose casing has been opened.

Product Configuration

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About the POW-DD10GY or POW-DD43GY

The POW-DD10GY or POW-DD43GY is a compact power supply unit designed to supply DC power to the F&eIT series of products.

This power supply unit, along with other products in the Series, incorporates a DIN rail mounting mechanism as a standard item, which permits a simple system configuration using a wide-range 10 - 30VDC (POW-DD10GY) and 30 - 50VDC (POW-DD43GY) input.

FCC PART 15 Class A Notice

NOTE

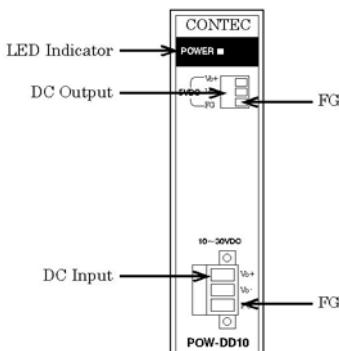
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference at his own expense.

WARNING TO USER

Change or modifications not expressly approved the manufacturer can void the user's authority to operate this equipment.

Nomenclature



LED Indicator

Name	Function	Indication
Power LED	Power: green	ON: DC output on OFF: DC output off

Connector

Name	Function
DC input port	2-piece power input connector (detachable). A dedicated plug as a standard item. Screw-in type cable connection.
DC output port	2-piece power output connector (detachable) A dedicated plug as a standard item Screw-in type cable connection

POW-DD43GY is the same as that of POW-DD10GY.

System Reference

Specifications

Item		Specifications	
		POW-DD10GY	POW-DD43GY
Input	Voltage	10 - 30VDC	30 - 50VDC
	Current	2.0A (Max.)	1.0A (Max.)
	Efficiency	80% (typ)	
Output	Nominal voltage	5.0V ±5%	
	Nominal current	3.0A (Max.)	
	Static input fluctuations	20mV (Max.)	
	Static load fluctuations	50mV (Max.)	
	Ripple noise	75mVp-p (Max.)	100mVp-p (Max.)
	Ambient temperature fluctuations	60mV (Max.) (-10 - 60°C)	
	Time-dependent drift	40mV (Max.) (ambient temperature, 25°C, minimum input, change occurring in 30 min - 6 hrs.)	
Auxiliary functions	Overcurrent protection	Operates at 120 - 140% of nominal current; auto-reverting	
	Oversupply protection	Operates at 120 - 140% of nominal current; returns when the switch is turned on again.	
Other functions	FG pin	An FG terminal is provided on the power I/O connectors	
	External dimensions (mm)	25.2 (W) × 64.7 (D) × 94.0 (H) (exclusive of any protrusions)	
	Cooling method	Natural air cooling	
	Service life	It is four years every the operating temperature of (Io=100%, 24V) 40°C during six years every the operating temperature 40°C (Io=100%, 48V)	
	Weight of the system unit	150g	
	Installation method	One-touch attachment to a 35mm DIN rail The mounting mechanism is provided on the system unit as a standard item.	

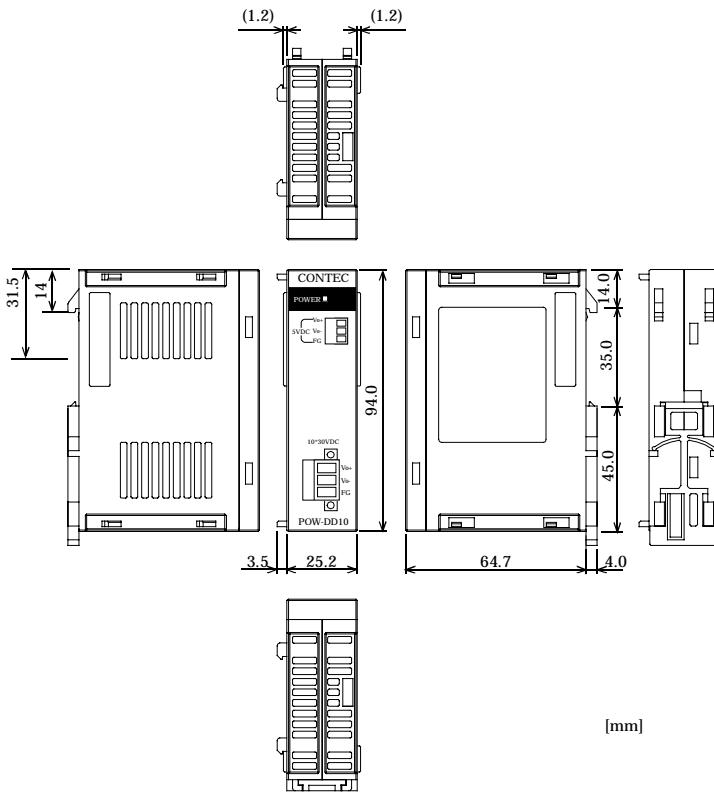
Installation Environment Requirements

Parameter		Requirement description	
Operating temperature		0 - 40°C	
Storage temperature		-10 - 60°C	
Humidity		10 - 90%RH (No condensation)	
Floating dust particles		Not to be excessive	
Corrosive gases		None	
Line-Noise resistance	Line-noise	AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)	
	Static electricity resistance	Contact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2) Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)	
Vibration resistance	Sweep resistance	10 - 57Hz/semi-amplitude 0.15mm, 57 - 150Hz/2.0G	
		80minutes each in X, Y, and Z directions (JIS C0040-compliant, IEC68-2-6-compliant)	
Impact resistance		15G, half-sine shock for 11ms in X, Y, and Z directions (JIS C004-compliant, IEC68-2-27-compliant)	
Grounding		Class D grounding (previous class 3 grounding)	

I/O Connectors

Item		Description	
Input	Board connector	5.08mm pitch	12.0A nominal current
	Plug	Laterally operable screw-in type (MSTB2.5/3-STF-5.08, made by PHOENIX CONTACT Corp.)	
	Compatible cable	AWG24 - 12	12.0A nominal current
Output	Board connector	3.5mm pitch	8.0A nominal current
	Applicable plug	Laterally operable screw-in type (MSTB2.5/3-GF-5.08, made by PHOENIX CONTACT Corp.)	
	Applicable cable	AWG28 - 16	8.0A nominal current

External Dimensions



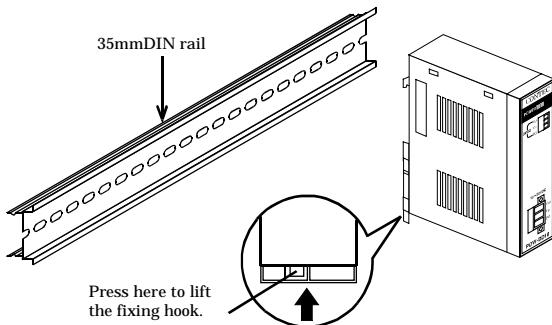
The External Dimensions of POW-DD43GY is the same as that of POW-DD10GY.

Installation Method

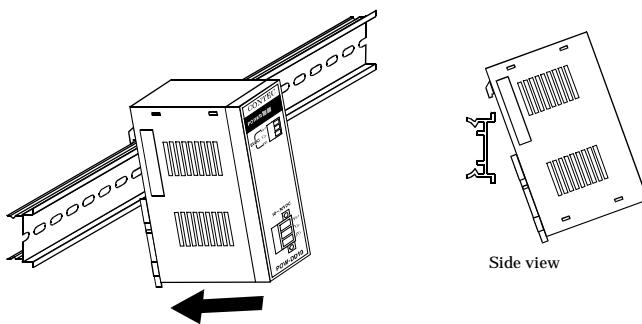
Mounting the DC-DC Power Supply Unit on the DIN Rail

Mounting procedure

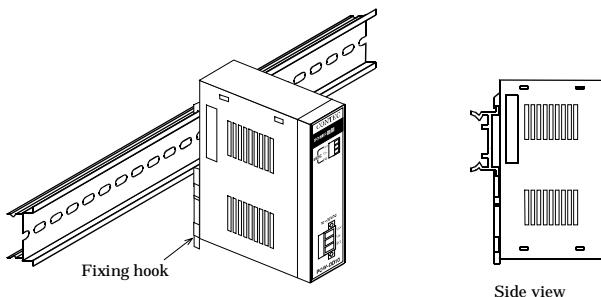
- (1) Pushing the fixing hook with a flat-blade screwdriver renders it into a lock-enabled condition.



- (2) Hook the DC-DC power supply unit from the upper part of the DIN rail, and press the lower part of the unit against the DIN rail.

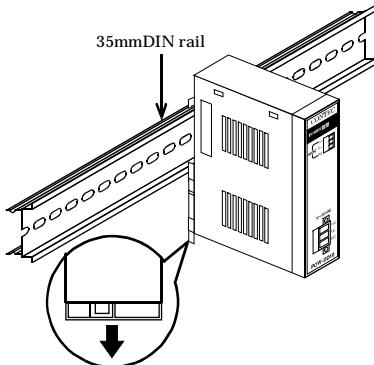


- (3) The fixing hook is automatically locked, and the module can be mounted in one-touch.

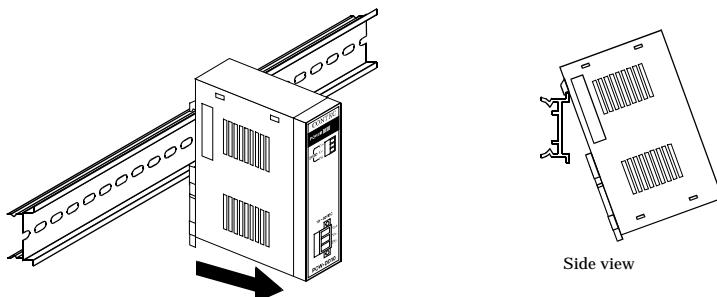


Removal procedure

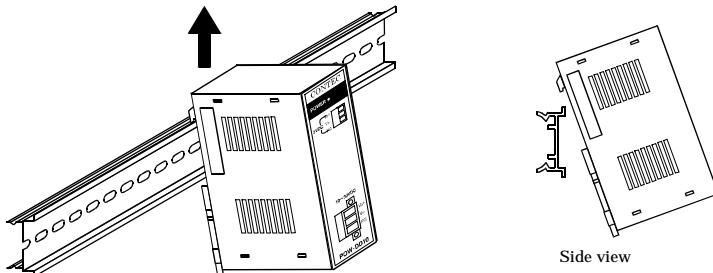
- (1) Lower the fixing hook for the unit to unlock it.



- (2) With the fixing hook unlocked, pull the lower part of the unit toward you.



- (3) By lifting the unit, you can easily remove it from the DIN rail.



Connection Method

Connecting the I/O cables to the DC-DC power supply unit

Cables are connected to the DC-DC power supply unit by means of detachable connectors that are provided as standard items.

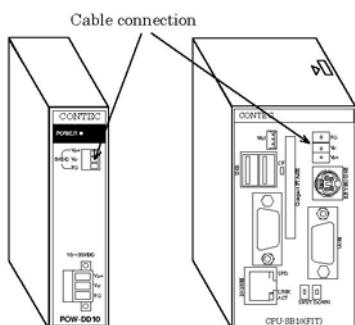
(Input unit: compatible cables: AWG 24 - 12. Tightening torque: 0.5 - 0.6Nm)

(Output unit: compatible cables: AWG 28 - 16. Tightening torque: 0.22 - 0.25Nm)

The DC-DC power supply unit and F&eIT Series product can be cable-connected using the detachable connector that is provided on either the unit face or the module face (compatible cables: AWG 28 - 16).

Note!

Because the DC-DC power supply unit generates heat, a minimum spacing of 2.0 cm should be provided between the POW-DD10GY and any adjoining units, and care should be taken so that the ventilation holes are not covered.



The same is said of POW-DD43GY.

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December 2005 Edition

A-40-601 (LZU3351)

12162005_rev3 [08062001]

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